

**IN THE CLAIMS**

Please amend the claims as follows:

1-45. (Canceled)

46. (Original) A method of reading a memory cell, comprising:  
applying a potential difference ( $V_{DIFF}$ ) to a selected memory cell by providing a column potential ( $V_C$ ) on a column line and a row potential ( $V_R$ ) on a row line;  
increasing  $V_{DIFF}$  by an increment less than a transistor threshold voltage ( $V_T$ ); and  
determining whether the increased  $V_{DIFF}$  results in a current flow on the column line for the selected memory cell.
47. (Original) The method of claim 46, wherein applying a potential difference ( $V_{DIFF}$ ) to a selected memory cell includes applying  $V_C$  and  $V_R$  across a resistive load inverter in the selected memory cell.
48. (Original) The method of claim 47, wherein applying  $V_C$  and  $V_R$  across a resistive load inverter includes:  
applying  $V_C$  and  $V_R$  across an NMOS resistive load inverter; and  
increasing  $V_{DIFF}$  by an increment less than a transistor threshold voltage ( $V_T$ ) includes:  
maintaining a constant  $V_C$ ; and  
decreasing  $V_R$  by an increment less than an NMOS transistor threshold voltage ( $V_{TN}$ ).
49. (Original) The method of claim 46, wherein increasing  $V_{DIFF}$  by an increment less than a transistor threshold voltage  $V_T$  includes decreasing  $V_R$  by an increment less than a transistor threshold voltage  $V_T$ .



50. (Original) A method of writing a memory cell, comprising:  
applying a potential difference ( $V_{DIFF}$ ) to a selected memory cell by providing a column potential ( $V_C$ ) on a column line and a row potential ( $V_R$ ) on a row line; and  
increasing  $V_{DIFF}$  by an increment more than a transistor threshold voltage ( $V_T$ ) to set the selected memory cell to a one state.
51. (Original) The method of claim 50, wherein applying a potential difference ( $V_{DIFF}$ ) to a selected memory cell includes applying  $V_C$  and  $V_R$  across a resistive load inverter in the selected memory cell.
52. (Original) The method of claim 51, wherein applying  $V_C$  and  $V_R$  across a resistive load inverter includes:  
applying  $V_C$  and  $V_R$  across an NMOS resistive load inverter; and  
increasing  $V_{DIFF}$  by an increment more than a transistor threshold voltage ( $V_T$ ) includes:  
maintaining a constant  $V_C$ ; and  
decreasing  $V_R$  by an increment more than an NMOS transistor threshold voltage ( $V_{TN}$ ).
53. (Original) The method of claim 50, wherein increasing  $V_{DIFF}$  by an increment more than a transistor threshold voltage  $V_T$  includes decreasing  $V_R$  by an increment more than a transistor threshold voltage  $V_T$ .
54. (Original) The method of claim 50, wherein decreasing  $V_{DIFF}$  by an increment more than  $V_T$  resets the selected memory cell to a zero state.
55. (Original) The method of claim 54, wherein decreasing  $V_{DIFF}$  by an increment more than  $V_T$  to reset the selected memory cell includes increasing  $V_R$  by an increment more than  $V_T$ .



56. (Original) A method of operating a memory array, comprising:
- applying a potential difference ( $V_{DIFF}$ ) to each of a plurality of memory cells by providing a column potential ( $V_C$ ) on a column line and a row potential ( $V_R$ ) on a row line;
  - resetting a first selected memory cell to a zero state by decreasing  $V_{DIFF}$  by an increment more than a transistor threshold voltage ( $V_T$ ) to reset the selected memory cell to a zero state;
  - writing a second selected memory cell to a one state by increasing  $V_{DIFF}$  by an increment more than  $V_T$  to set the selected memory cell to the one state; and
  - reading a third selected memory cell by:
    - increasing  $V_{DIFF}$  by an increment less than  $V_T$ ; and
    - determining whether the increased  $V_{DIFF}$  results in a current flow on the column line for the selected memory cell.
57. (Original) The method of claim 56, wherein applying a potential difference ( $V_{DIFF}$ ) in each of a plurality of memory cells includes applying  $V_C$  and  $V_R$  across a resistive load inverter in each of the plurality of memory cells.
58. (Original) The method of claim 57, wherein:
- applying  $V_C$  and  $V_R$  across a resistive load inverter includes applying  $V_C$  and  $V_R$  across an NMOS resistive load inverter; and
  - writing a second selected memory cell by increasing  $V_{DIFF}$  by an increment more than a transistor threshold voltage ( $V_T$ ) includes:
    - maintaining a constant  $V_C$ ; and
    - decreasing  $V_R$  by an increment more than an NMOS transistor threshold voltage ( $V_{TN}$ ).
59. (Original) The method of claim 56, wherein writing a second selected memory cell by increasing  $V_{DIFF}$  by an increment more than a transistor threshold voltage  $V_T$  includes decreasing  $V_R$  by an increment more than a transistor threshold voltage  $V_T$ .



60. (Original) The method of claim 56, wherein resetting a first selected memory cell includes resetting a row of cells by adjusting  $V_R$  by an increment larger than  $V_T$ .

61. (Original) The method of claim 56, wherein writing a second selected memory cell to a one state by increasing  $V_{DIFF}$  by an increment more than  $V_T$  includes:

adjusting  $V_R$  for a write operation by an increment greater than a transistor threshold voltage to turn a first transistor on for cells within a selected row; and

adjusting a second column potential  $V_C$  on a second column line by an amount to prevent a second transistor in the selected row from turning on in response to adjusting the row potential for the write operation.

62. (Original) The method of claim 56, wherein reading a third selected memory cell includes:

decreasing  $V_R$  by an increment less than a transistor threshold voltage increment; and  
determining if the decreased  $V_R$  results in a current flow on a corresponding column line for the memory cell.

63-71. (Canceled)

72. (Currently Amended) A method of forming a SRAM circuit, comprising:

providing a memory array, a controller, a row line voltage generator, a column line voltage generator, and a column line current detector;

coupling the controller to the row line voltage generator, the column line voltage generator, and the column line current detector;

coupling the row line voltage generator to row lines within the memory array such that the controller is able to vary a potential on a selected row line;

coupling the column line voltage generator to column lines within the memory array such that the controller is able to vary a potential on one or more selected column lines; and

coupling the column line current detector to the column lines within the memory array such that the controller is able to determine current flow on a selected ~~current~~ column line.



73. (Currently Amended) The method of claim [[71]] 72, wherein providing a memory array includes providing a plurality of memory cells, each cell being provided by:

- forming a PMOS transistor with a gate;
- forming an NMOS transistor with a gate;
- coupling the PMOS transistor gate in series with the NMOS transistor; and
- coupling the NMOS transistor gate in series with the PMOS transistor.

74. (Currently Amended) The method of claim [[71]] 73, forming a memory cell by forming a PMOS transistor with a gate and forming an NMOS transistor with a gate includes forming a lightly doped polysilicon gate for both the PMOS transistor and the NMOS transistor.

75. (Currently Amended) The method of claim [[72]] 73, further including:

- coupling the PMOS transistor and the NMOS transistor gate between a PWRP power supply and a first reference line; and
- coupling the NMOS transistor and the PMOS transistor gate between a PWRN power supply and a second reference line.

76. (Currently Amended) The method of claim [[71]] 73, further including:

- coupling the PMOS transistor and the NMOS transistor gate between a constant power supply and a ground reference line; and
- coupling the NMOS transistor and the PMOS transistor gate between a column line with an adjustable potential and a row line with an adjustable potential.